

Childhood Obesity Prevention Efforts and Outcomes in Warm Springs, Oregon

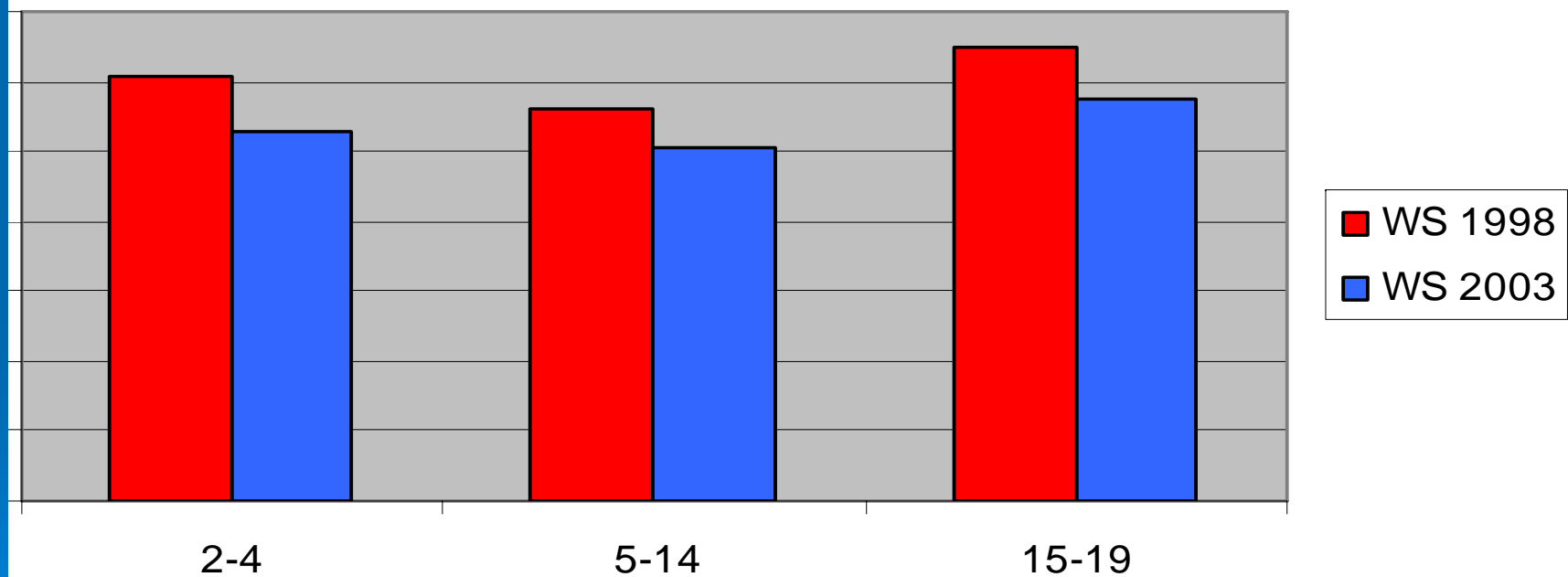
Sara Lee Thomas, MS, RD

Sara.Thomas@ihs.gov

541.553.1196 ext.4160

It's Possible!

%Overweight or Obese by Age Category



Thanks to the Community of Warm Springs

- No progress would be possible without the support of the community so recognition must go to the community of Warm Springs which has planned for, promoted, and participated in wide range of disease prevention and health promotion activities.
- Thanks also to the I.H.S.Diabetes Grants which have funded some of these efforts.

The Big Problem

- **Everyone is facing an obesity epidemic.**
 - Childhood Obesity in the U.S. has doubled in the last 2 to 3 decades.
 - The rates of obesity are 2 to 3 times higher in Native Children
- **Obese children are at risk physically and emotionally.**
 - Obese Children and Teens have higher rates of Diabetes Type 2, Asthma, Liver disease, Sleep apnea, Orthopedic problems, High Cholesterol, and High Blood Pressure.
- **70% of obese teens become obese adults. *NIH***

The Big Problem

- **Obesity drives up medical costs 37%.**
An obese patient costs \$732 more a year.
Health Affairs May 2003:219-226.
- **More Obesity Means More Diabetes.**
We Can't afford the Diabetes we already have
 - U.S. Non-Diabetic \$ 2,560 a year per capita
 - U.S. Diabetic \$13,243 a year per capita
 - I.H.S Patient \$ 1,404 a year per capita
- Sources: IHS Year 2002 Profile, Diabetes Care, March 2003.

Strategy to accomplish goal

1. Pervasive and consistent Public Health Nutrition messages to entire community. “Advertise” Good Nutrition. Promote good nutrition in program menus.
2. Track and report rates of overweight and breastfeeding in Warm Springs
3. Childhood Overweight Targeted Interventions
 - Breastfeeding promotion
 - Elementary school nutrition education
 - Wee Bee Walking Club at the Preschool

Funding level/cost

- Registered Dietitians: 2 FTE registered dietitians, GS9 and GS11, I.H.S., for active patient population of 6-7000 to be fully staffed to allow time for these extra efforts.
- Elementary School Nutrition Education:
 - \$800-\$1200 a year for food. I.H.S. 1996-2004
 - \$4000 a year for food/supplies, OSU Extension plus about ¼ time of a FTE earning about \$36,000/yr plus some help by 2 assistants. 2004-now
- Maternal Child Health Program, 638 Tribal Program, 1 part time nurse, 1 full time assistant
- Wee Bee Walking Program: about \$3500 a year for incentives. Funding for staff and supplies comes from the non-competitive diabetes grant.

Public Health Nutrition



Public Health Nutrition Services

- **Thanks to the Tribes' Joint Venture project we became fully staffed with Registered Dietitians in 1994, 2 FTE**
 - **Public Health Nutrition RRM 1 RD:3,333 population (0.3 FTE/1000)**
 - **Total I/T/U RD ratio of 1 RD:6,666 patients is more than twice as high***
- **Being fully staffed has allowed us to do many more public health activities**

***http://www.ihs.gov/MedicalPrograms/Diabetes/nutrition/MNTInvestinNutritionRev_July2005.doc**

Public Health Nutrition Activities

- **Healthy Cooking Classes** since 1994
- **Monthly Nutrition Newsletter** since 1998
- **Healthy Food Sample table** since May 2005
- **Senior Nutrition Talks** monthly since 1994.
- **Nutrition Public Service Announcements** on local radio 91.9 KWSO since 2004
- **Women of Wellness Lunch** since 2000 in cooperation with Tribal and I.H.S. programs
- **Worksite Walkbreak Program** since 2002
- **Diabetes Breakfast** with Diabetes Program over 15 yrs
- Help with “**Biggest Loser in Warm Springs**” contest
- **Coordinate local “Nutrition Team”** with USDA, Extension, and Tribal nutrition programs.

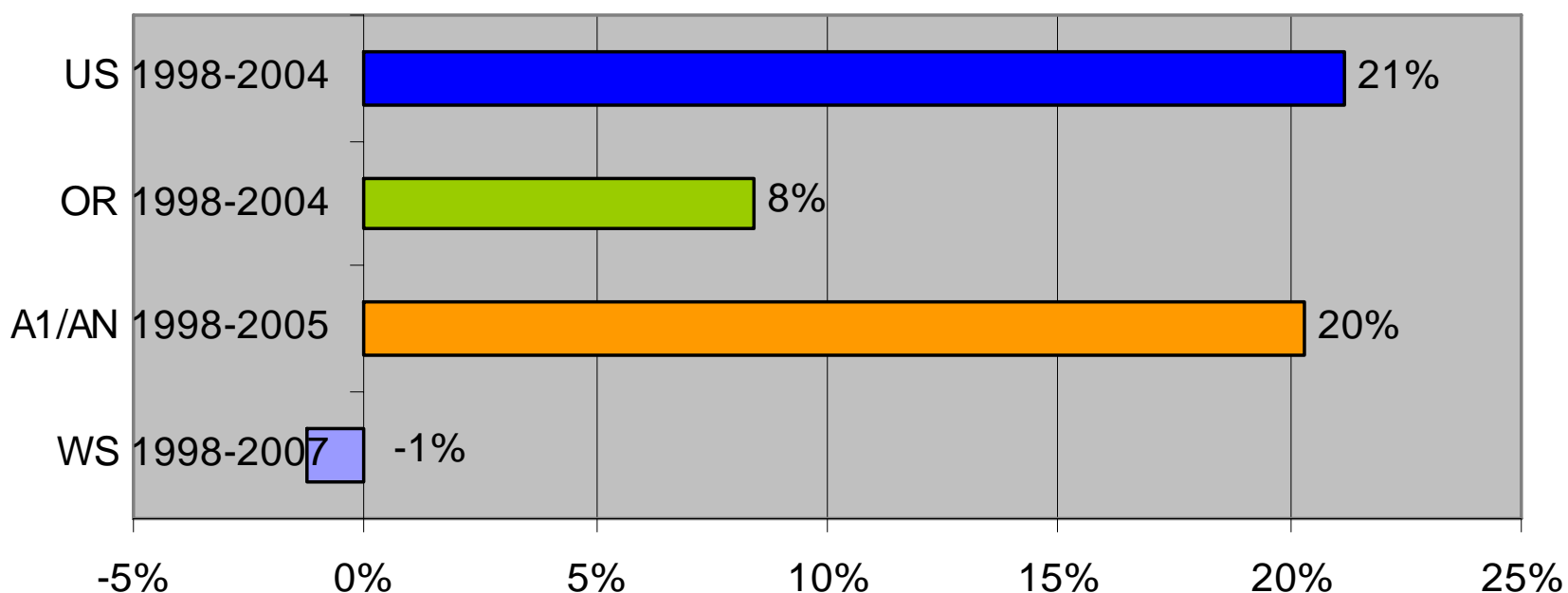
Public Health Nutrition Services

Nutrition and Menu Consultation and/or Staff training for Tribal and I.H.S Programs with a nutrition component:

- Women Infant Child (W.I.C.) Program
- Early Childhood Education Center/ Head start
- High Looke Lodge Assisted Living Facility
- Senior Center meal site
- USDA Commodity Foods Program
- Child Protective Services (CPS)
- Jail
- Diabetes Program, Diabetes Prevention Program

Warm Springs puts the Brakes on Obesity in Adults

**%Relative Change in Overweight and Obesity in Adults
Warm Springs versus Oregon and National Data**



Track and Promote Breastfeeding, 1990→present

Special mention and thanks to our Lactation specialists:
L.Lillian January, MS, RD (1986-2001) and
Janet Bissell, MCH Nurse (2000-present)

Why Breastfeeding?

- Breastfeeding is traditional.
- May decrease the risk of childhood obesity
- May decrease the risk of type 2 diabetes
- Many health benefits and cost savings to baby, mother, employers, and community.
- Save \$331-\$475 per baby in first year medical costs if exclusively breastfed 3 months
-*PEDIATRICS* Vol. 103 No. 4 April 1999, pp. 870-876.

Tracking Breastfeeding

Breastfeeding tracked and promoted in Warm Springs from 1990 to present:

- QI Excel Spread sheet, chart reviews,
- the “Baby Book” of discharge summaries,
- RPMS INDIAN HEALTH SERVICE OBSTETRIC PATIENT TRACKING SYSTEM used by MCH program
- WIC in Warm Springs for over 25 years
- E.H.R. has new capabilities for recording infant feeding methods

Special mention and thanks to our Lactation specialists:

- L.Lillian January, MS, RD (1986-2001) and Janet Bissell, MCH Nurse (2000-present)

Evaluation? Impact?

- Breastfeeding at discharge:
 - 75% in 1998 in Warm Springs
 - 95% in 2007 in Warm Springs
 - 75% is Goal for Healthy People 2010
- Local research review found 35% fewer overweight children ($\geq 95^{\text{th}}$ percentile) in the breastfed group (ever vs. never).

Breastfeeding Duration and Prevalence of Overweight Among 4- to 5-Year Olds, Sara Thomas, Diane Cook, The I.H.S. Provider April 2005, pages 100-102.

Article in I.H.S. Provider April 2005

Breastfeeding Duration and Prevalence of Overweight Among 4- to 5-Year Olds

Sara Lee Thomas, MS, RD, and Diane Cook, RD, Nutrition Department, Warm Springs Health and Wellness Center, Warm Springs, Oregon

Introduction:

A growing number of scientists believe that early nutritional experiences before and after birth can have a strong and lasting influence on metabolism (“metabolic imprinting”) and the risk for obesity, diabetes, hypertension, and cardiovascular disease later in life.¹ For instance, research has found that infants who gain weight too fast between birth and four months of age may be prone to obesity later in life.² This period of rapid weight gain is more common in formula fed

Subjects and Methods:

Subject characteristics are found in Table 1. We selected patients at the Warm Springs Health and Wellness Center who were 4 to 5 years of age as of June 1, 2003 (n=288) who had current BMI data (n=144) and infant feeding data (n=81). Overall average Indian quantum was 56%. About two-thirds of the subjects were members of the Warm Springs Confederated Tribes, which comprises the Piute, Wasco, and Warm Springs Tribes. Quantum and tribal membership were generated using Patient General Retrieval (PGEN) to look at overall numbers in all 4- to 5-year olds (n=288).

Table 1. Characteristics of subjects in the study

<http://www.ihs.gov/PublicInfo/Publications/HealthProvider/issues/PROV0405.pdf>

Wee Bee Walking



Wee Bee Walking 2002-present at Early Childhood Education Center

- Ran by Carolyn Harvey, Tribal Wellness Coordinator, Community Wellness Coordinator, Fitness instructor
- **Participation:** More than 10 Classrooms, over 150 preschool kids and teachers take 10-minute (1/2 mile) walkbreaks, track their walks, earn incentives, get T-shirts. There are 2 to 3 promotion blocks per year and monthly fun runs through out the year.

Wee Bee Walking Begins!

- The program grew out of our community Worksite Walkbreak program--we go to several worksites and take 10 minute (1/2 mile) walks with staff once a day 1-3 times a week for 2 months twice a year. On their own on other days/months. When we did the program at ECE both staff and kids went on the walks, we saw a benefit, and “Wee Bee Walking” was born!

Benefits of Wee Bee Walking

Benefits the children got from the program:*

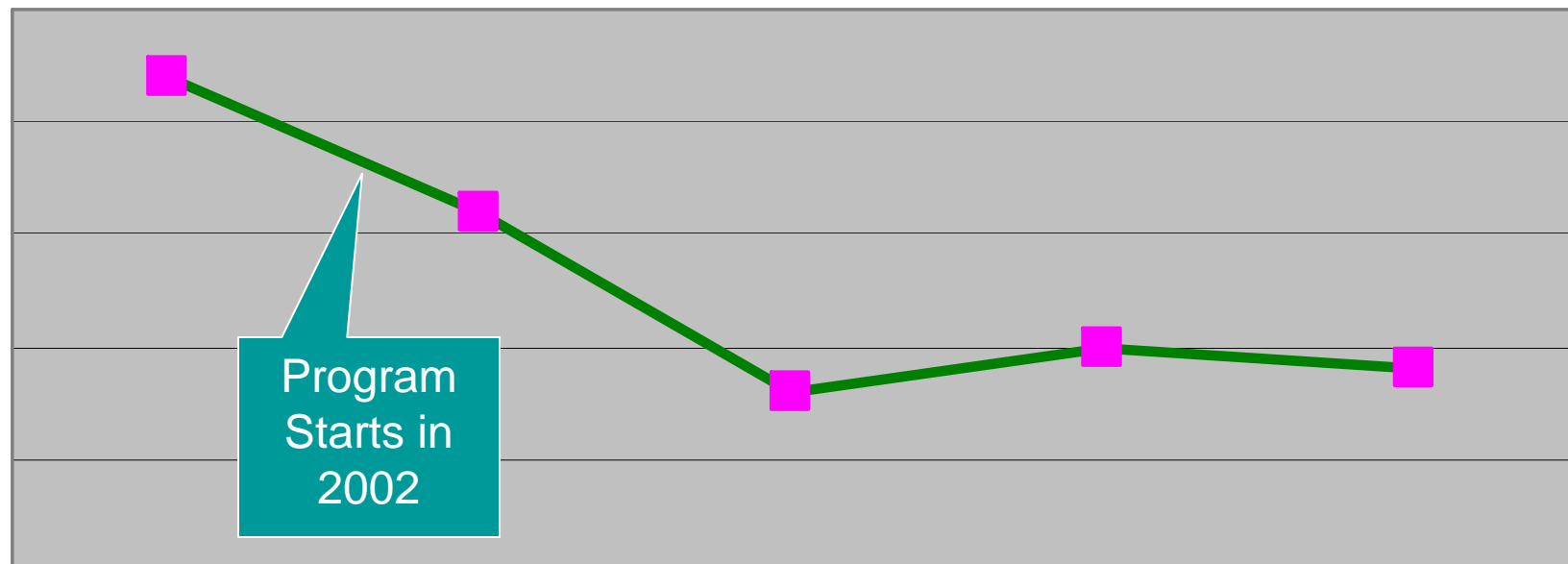
- Had Fun
- Paid attention better
- Ate better
- Felt better

*checked on over half of returned evaluation forms

Sample written comment: "Walks do help children settle down better. Fresh air is good for everyone. Teachers need the exercise too."

Wee Bee Walking

% Overweight 2 to 4 year olds from 2001 to 2005



A small but promising decrease of 2 to 3% was sustained for 3-4 years before disappearing and returning to 1998 baseline in 2006. however even maintaining baseline and preventing increases is an encouraging outcome.

Elementary School



Elementary School Nutrition Education for 8 years

- Elementary School Nutrition Education (K-4th) 1996-2004. Eight monthly ½ hour basic nutrition education and healthy snacks in the classroom. Started by I.H.S. Nutrition then done jointly with OSU Extension. The IHS program on hold since 2004 due to a new Reading Grant cutting out all time for extracurricular activities in the classroom
- Resources used in teaching
 - “How to teach nutrition to kids” by Connie Evers, RD
 - “Willie Munchright” video (no longer available)
 - \$800-\$1200 a year for food. I.H.S. 1996-2004
 - Time: 3 days a month to prepare and teach classes

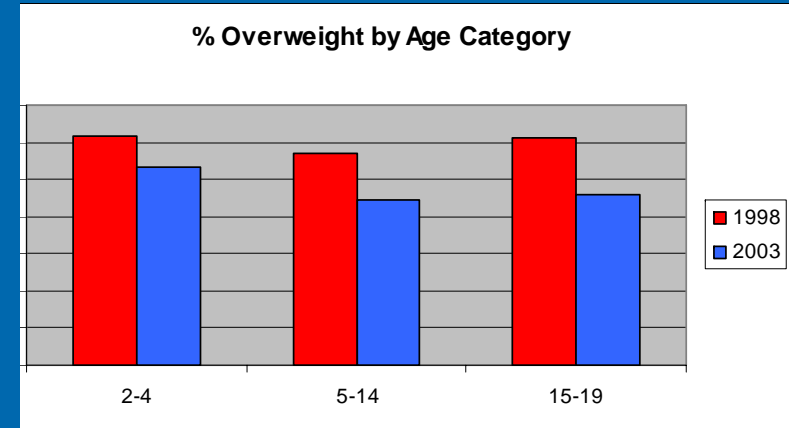
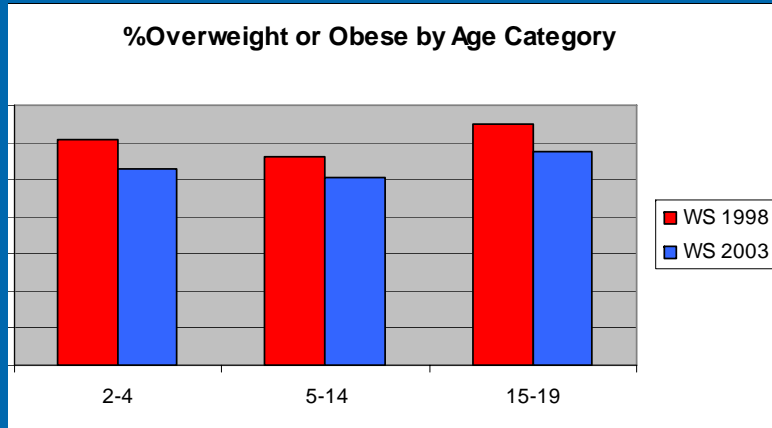
Elementary School Nutrition Education

- Elementary School Nutrition Education (K-5th)
2004-present OSU Extension has continued nutrition education with 5th grade cooking classes monthly and nutrition education during P.E. classes for K-5th
- Cost to OSU Extension:
 - \$4000 a year for food/supplies, plus about ¼ time of a FTE earning about \$36,000/yr plus some help by 2 assistants. 2004-now

Outcomes



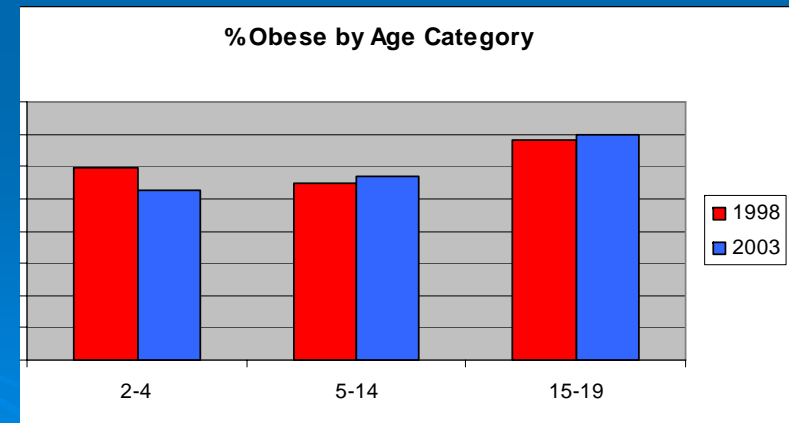
1998 vs. 2003



We see an interesting pattern in that our Public Health efforts seem to decrease overweight much more than obesity

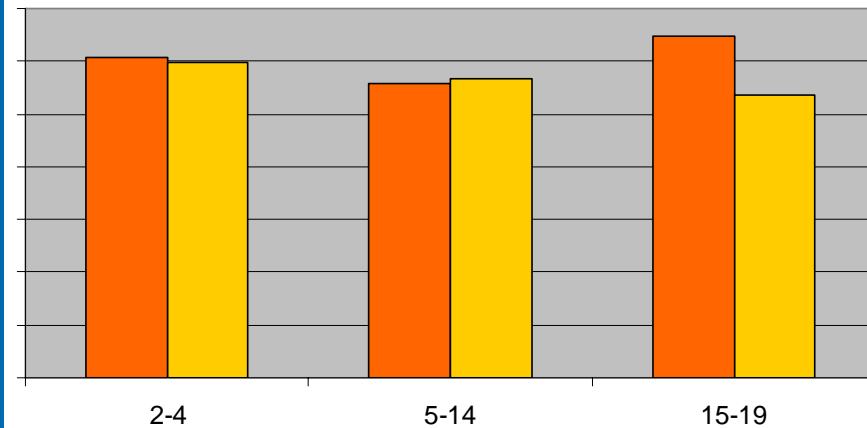
(85thtile vs. 95thtile)

FYI: These are technically known as “at risk for overweight” and “overweight” in children

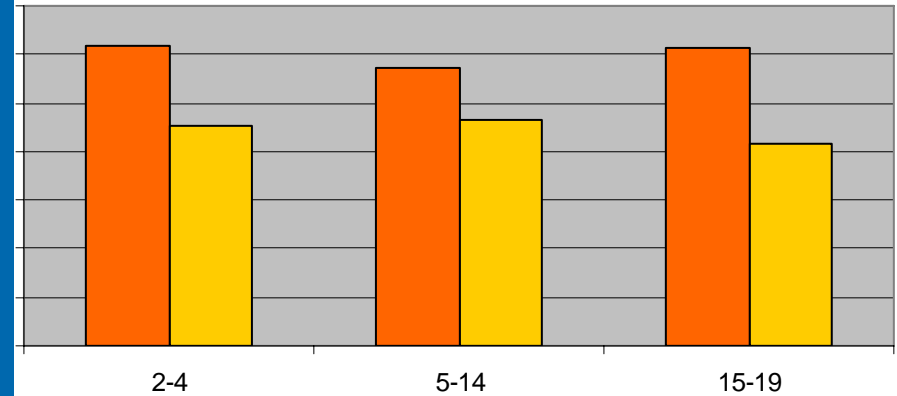


1998 vs. 2007

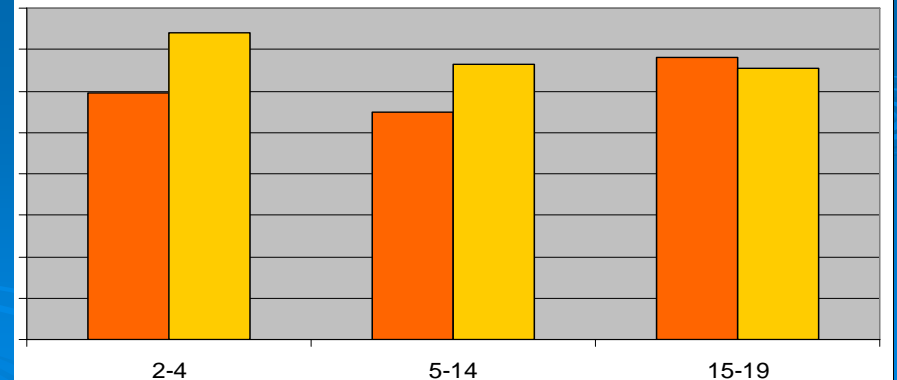
**% Overweight or Obese by Age Group
Warm Springs 1998 vs. 2007**



%Overweight 1998 vs. 2007 in Warm Springs

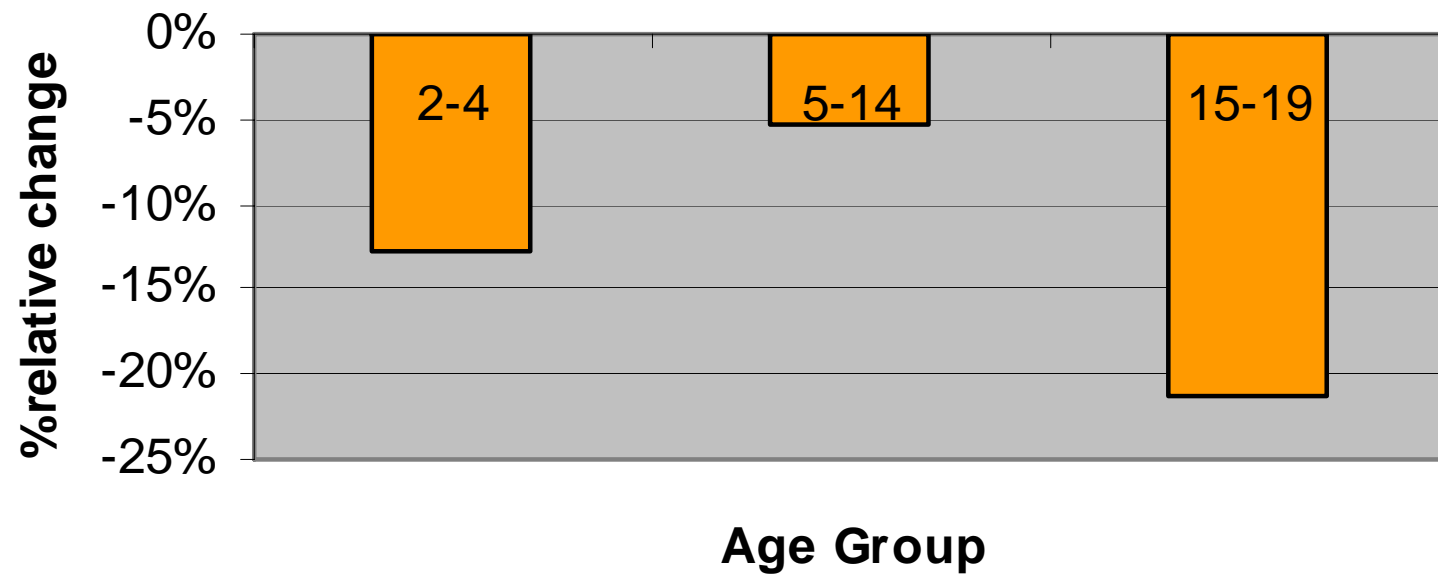


%Obese 1998 vs. 2007 in Warm Springs



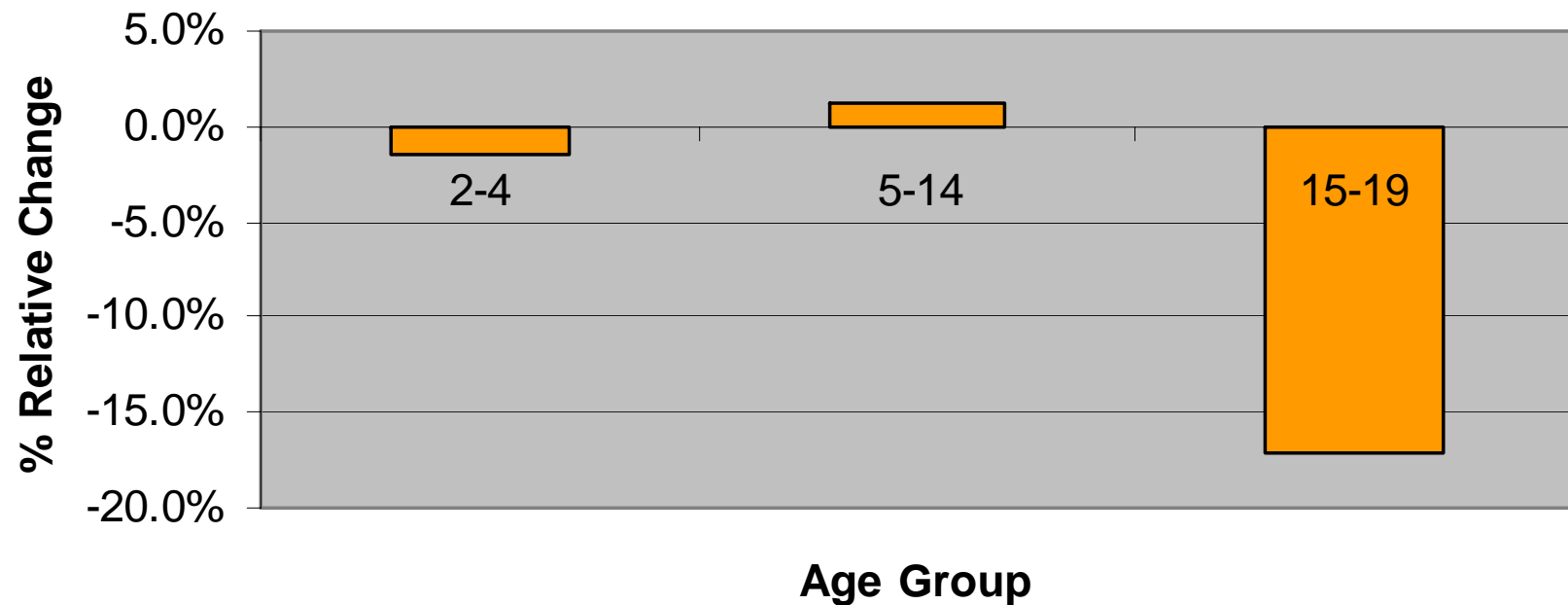
2005

% Relative Change in Percent of Patients Overweight or Obese 2005 vs.1998



2007

% Relative Change in Percent of Children Overweight or Obese 2007 vs.1998



What changed?

- When resources decrease, public health efforts suffer, focus tends to stay with clinical/acute needs. In an ideal world we would have the resources to treat public health as “potatoes” not “gravy”; essential not optional.
- Loss of momentum, decreased services: Nutrition was understaffed for over a year, 2005-2006 due to maternity leave, the 638 process, and delays in the hiring process.
 - Total RD patient contacts 2004→2006 fell 32%, from a decrease in public health patient contacts, and Program contacts fell 44%.
- But...we maintained 2-14 year olds close to baseline and saw a 17% decrease in overweight/obesity in 15-19 year olds!

Lessons Learned

- A public health nutrition approach works. (A clinic based approach was *not* used). It works best if you are able to be consistent, persistent and pervasive—being fully staffed with Registered Dietitians is one important key to this.
- Targeted interventions work best within a more global public health effort
- Collaboration between programs creates synergy and improves results.

How to run the Overweight Prevalence report in RPMS

- Log on to RPMS
- Type ^BMI *or* ^OOPT then press enter
- OOPT: Risk for Overweight Prevalance Report
- P Search All Patients
- G Age Groups listed
- B Both (males and females)
- Yes include ONLY Indian/Alaska Native Beneficiaries?
- Choose printer

Data in report

- Data on your AI/AN patients

IF

- They are an Active patient TODAY
(seen in CLINIC in last 3 years)

AND

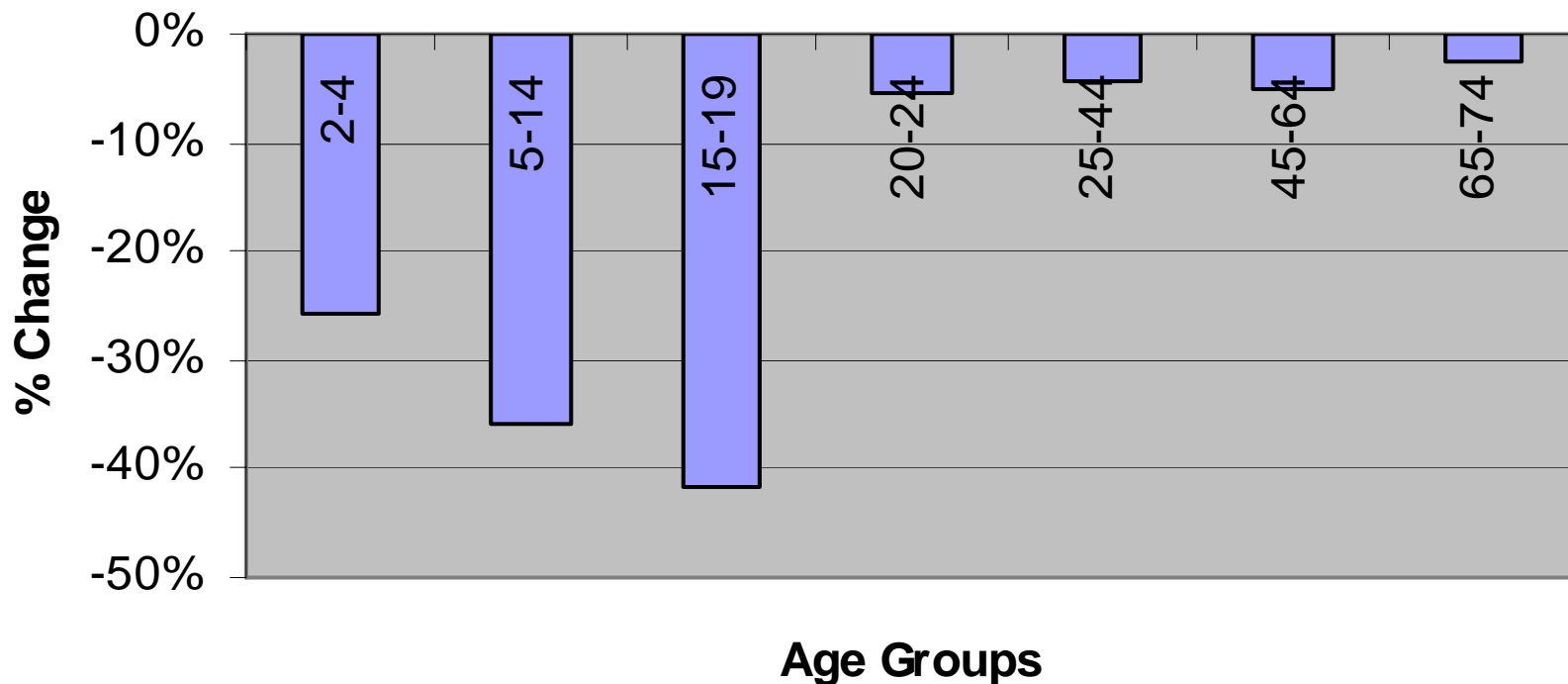
- They have height and weight on same day
within a year of the report period for ages
2-19

Active Patient 'Error'

- If you're interested in tracking *public health* changes—"How were we doing in our community then versus now?"-- you need to be aware of this 'error' in the OOPT and GPRA
- 'Error': Patients are removed who are not active *clinical* patients the *date you run the report*, not the date of the report period.
- Statistics for the *Same Report Year* (1998) change based on WHEN the report was run.
- This disproportionately affects statistics in children (see the following graphs)
 - Can't look back more than 3 years.
 - Run and keep hard copies of the reports annually.

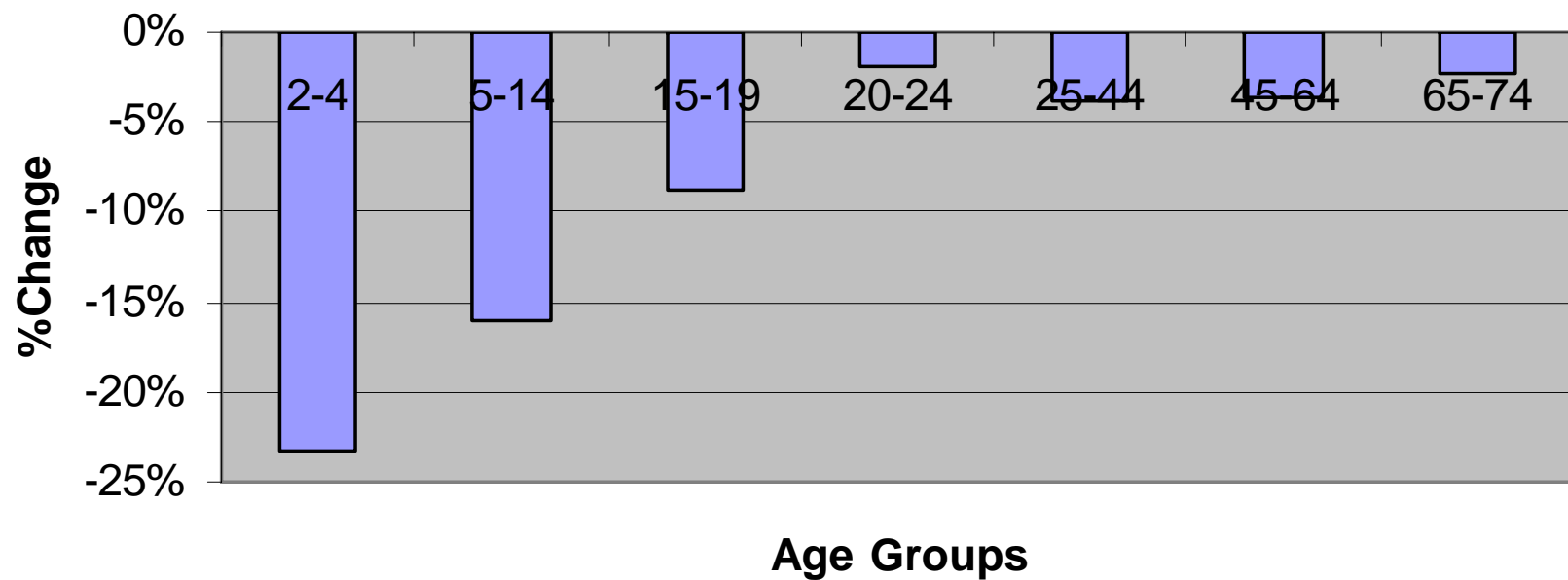
Active Patient Error

If you run a report for 1998 today you will get fewer Number of Patients in Your Data Set.



Active Patient Error

%Change in Overweight Prevalence for 1998
If you run the 1998 report today



Reasons for 'error'?

- Visits to the clinic go down once children they have had their shots?
- Overweight children/teens avoid the clinic?
- The same socioeconomic factors that promote weight gain in early childhood also decrease clinic visits later in life?
- Active patients with data in 2007:
 - ~80% of preschool children
 - ~40% of school age children
 - ~35% of high school age children

Elementary School: more information



Elementary School Nutrition Education.

Example of Monthly Topics

1. Food Guide Pyramid
2. Everyday vs. Sometimes Foods
3. Protein Group
4. Dairy Group
5. Vegetable Group
6. Fruit Group
7. Grain Group
8. What to drink?

Key Objectives

- Name food groups
- Put foods into correct group
- Tell basic health benefit of food groups.
- Know that you need more of the food groups at the bottom of the pyramid and less of the food groups at the top.
- Discriminate between Sometimes and Everyday foods. Example: candy is a sometimes food. It is okay to eat candy but only sometimes or a little bit.

Key Objectives

- Sample new foods to encourage variety
- Identify the food group traditional foods belong in.
- Basic sanitation concepts. (wash hands, clean table)
- Reinforce identifying colors, shapes, same and different.

Key Objectives (older grades)

- Measure and/or identify the correct portion sizes of foods within the food groups
- Label reading basics used to make decisions on snack foods.
- Basic Meal planning
- Discuss Media influences on food choices
- Eating out choices
- Use take home projects to involve parents.

Key Messages

- Eating healthy foods helps you grow stronger and play longer.
- Sometimes foods are OK to eat, but only sometimes or only a little bit. (there are no "bad" foods)
- Be adventurous and try new foods.
- Healthy foods taste good.
- Traditional foods are healthy.
- Water is good for you.
- Being active is fun and makes you feel good

Elementary School Nutrition Education resources used

- Book: “How to Teach Good Nutrition to Kids” by Connie Liakos Evers, MS, RD
- Video: “What’s on your plate? with your host Willie Munchright”
- Also various other resources:
 - Food Guide Pyramid
 - USDA materials
 - O.S.U. extension snack recipes, curriculum ideas

“What’s on your Plate?” with your host Willie Munchright. Video no longer available.

- Animated Claymation, colorful and fun, short and catchy
- 12 PSAs for TV written by the Society for Nutrition Education
 - Everyday vs. Sometimes foods
 - Trying New Foods
 - Food Guide Pyramid
 - Each Food group (5 PSAs)
 - Breakfast
 - Snacks
 - Fats
 - Sugar

